

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|   |   |   |
|---|---|---|
| Applicant's or agent's file reference<br><b>11366PC2</b>      | <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"><b>FOR FURTHER ACTION</b></div> <div>see Notification of Transmittal of International Search Report<br/>(Form PCT/ISA/220) as well as, where applicable, item 5 below.</div> </div> |   |
| International application No.<br><b>PCT/AU03/01333</b>        | International filing date ( <i>day/month/year</i> )<br><b>9 October 2003</b>  | (Earliest) Priority Date ( <i>day/month/year</i> )<br><b>9 October 2002</b> |
| Applicant<br><b>QUEENSLAND UNIVERSITY OF TECHNOLOGY et al</b> |   |   |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (See Box II).

4. With regard to the title, ☒ the text is approved as submitted by the applicant.  
☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract, ☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is Figure No. 4

☒ as suggested by the applicant. ☐ None of the figures  
☐ because the applicant failed to suggest a figure  
☐ because this figure better characterizes the invention

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01333

**A. CLASSIFICATION OF SUBJECT MATTER**Int. Cl. <sup>7</sup>: A61B 5/0402

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

SEE ELECTRONIC DATABASES CONSULTED

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

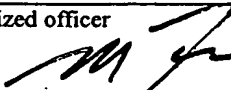
DWPI: A61B A61N IMPEDANCE CARDIAC HEART VENTRIC MYOCARD FREQUENCY MULTI TRIPLE SWEEP SCAN PLURAL MANY SEVERAL SPECTRA MEASURE DETERMINE CALCULAT COMPUTE FUNCTION PLOT

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                            | Relevant to claim No. |
|-----------|---|-----------------------|
| X         | US 5063937 A (EZENWA et al) 12 November 1991<br>Column 2 lines 29 to 61, column 4 line 57 to column 5 line 25 | 19-20                 |
| X         | WO 96/01586 A1 (REINING INTERNATIONAL LTD.) 25 January 1996<br>Entire document                                | 1-20                  |
| P,X       | EP 1247487 A1 (OSYPKA MEDICAL GmbH) 9 October 2002<br>Entire document   | 1-20                  |

☒ Further documents are listed in the continuation of Box C☒ See patent family annex

|     |   |     |  |
|-----|---|-----|--|
| "A" | Special categories of cited documents:<br>document defining the general state of the art which is not considered to be of particular relevance                      | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  |
| "E" | earlier application or patent but published on or after the international filing date   | "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone   |
| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" | document referring to an oral disclosure, use, exhibition or other means  | "&" | document member of the same patent family  |
| "P" | document published prior to the international filing date but later than the priority date claimed  |     |  |

Date of the actual completion of the international search  
3 December 2003Date of mailing of the international search report  
16 DEC 2003Name and mailing address of the ISA/AU  
AUSTRALIAN PATENT OFFICE  
PO BOX 200, WODEN ACT 2606, AUSTRALIA  
E-mail address: pct@ipaaustralia.gov.au  
Facsimile No. (02) 6285 3929Authorized officer  
  
MATTHEW FORWARD  
Telephone No : (02) 6283 2606

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU03/01333

C (Continuation).

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages           | Relevant to claim No. |
|-----------|--|-----------------------|
| Y         | WO 00/40955 A1 (KAIKU LIMITED) 13 July 2000<br>Pages 10 to 11                                | 19-20                 |
| Y         | FR 2748928 A1 (JABOURAIN ARTIN PASCAL) 28 November 1997<br>Figures                           | 19-20                 |
| Y         | RU 2112416 C1 (COMPUTING ENGINEERING RESEARCH INSTITUTE) 10 June 1998<br>Abstract and figure | 19-20                 |
| A         | US 4905705 A (KIZAKEVICH et al) 6 March 1990<br>Figure 1                                     | 1, 19                 |
| A         | WO 93/18821 A1 (MEDTRONIC, INC.) 30 September 1993   | 1, 19                 |
| A         | EP 339471 B1 (LIFECOR, INC. PENNSYLVANIA CORPORATION) 26 March 1997                          | 1, 19                 |

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU03/01333

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in<br>Search Report |          |    |             | Patent Family Member |             |    |             |
|---|----------|----|-------------|----------------------|-------------|----|-------------|
| US  | 5063937  | NO | FAMILY      |                      |             |    |             |
| WO  | 96/01586 | EP | 771172      | US                   | 5505209     |    |             |
| EP  | 1247487  | CA | 2352403     | EP                   | 1247487     | US | 6511438     |
| WO  | 00/40955 | AU | 19891/00    | EP                   | 1141685     |    |             |
| FR  | 2748928  | NO | FAMILY      |                      |             |    |             |
| RU  | 2122416  | NO | FAMILY      |                      |             |    |             |
|   | 4905705  | AU | 51768/90    | WO                   | 90/09757    |    |             |
| WO  | 93/18821 | AU | 37978/93    | CA                   | 2102906     | EP | 586664      |
|   |          | US | 5282840     |                      |             |    |             |
| EP  | 339471   | CA | 2043507     | EP                   | 459239      | JP | 01-320069   |
|   |          | JP | 07-000541   | JP                   | 2000-051371 | JP | 2000-051372 |
|   |          | JP | 2000-051373 | US                   | 4928690     | US | 5078134     |
| END OF ANNEX                              |          |    |             |                      |             |    |             |